

# Abstract

For receiving a voice FM broadcast it has so far been necessary to separately provide an SAW filter and a voice intermediate frequency amplifier circuit and the freedom of circuit design has been limited.

In the present invention there is used a variable filter circuit 15 (a variable filter means). The variable filter circuit 15 allows an intermediate frequency signal (IF) to pass therethrough, the intermediate frequency signal being outputted from a mixing circuit 14 as a constituent of a tuner means. The variable filter circuit 15 can change a limitation on the frequency band of the intermediate frequency signal passing therethrough. The frequency band of the intermediate frequency signal passing through the variable filter circuit 15 is thereby limited according to the type of a received broadcasting radio wave, and a VCO circuit 32 (a variable oscillator means) is controlled so as to change the oscillation frequency of an oscillation signal.

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